



Infrastructure, buildings, environment, communications

**ATTN: Information Technology Unit**  
California Regional Water Quality Control Board  
Los Angeles Region (RWQCB)  
320 West 4th Street, Suite 200  
Los Angeles, California 90013

Subject:

First Quarter 2004 Discharge Monitoring Report  
Waste Discharge Requirements Order Number R4-2002-0030 (Series 007)  
Compliance File Number CI-95-036, SLIC 0410  
Project Site: Former Boeing C-6 Facility (Building 2 Area), Los Angeles, California

Dear Information Technology Unit:

On behalf of Boeing Realty Corporation (BRC), ARCADIS is submitting this quarterly monitoring report per the Waste Discharge Requirements (WDR) Order Number R4-2002-0030 (Series 007). The purpose of this report and future WDR reports is to provide the Los Angeles Regional Water Quality Control Board (RWQCB) with amendment and monitoring activities at the referenced project site. The site is located at 19503 Normandie Avenue. Figures 1 and 2 illustrate the site location and the site layout, respectively.

This monitoring report summarizes groundwater amendment and monitoring activities performed during the first quarter of 2004. The sections below summarize amendment activities (Section 1.0), groundwater monitoring (Section 2.0), and provides a certification statement (Section 3.0).

## **1.0 Amendment Activities**

As part of the *in-situ* reactive zone pilot test in the Building 2 Area, 138 amendment points were installed to deliver a carbohydrate solution to the groundwater treatment areas. Underground lateral distribution lines were connected to each amendment points and routed to remote access vaults (Vaults 1, 2, 3, and 4). The amendment points, lateral lines, and vaults are illustrated on Figure 2.

The first amendment event was initiated on February 23 and 24, 2004. Carbohydrate solution was premixed at a facility in the City of Vernon and was delivered to the site in 5,000-gallon tanker trucks. The tanker trucks were rated to contain only food-grade products. The carbohydrate solution included 10% molasses and 90% potable

ARCADIS&M, Inc.  
1400 No. Harbor Boulevard  
Suite 700  
Fullerton  
California 92835-4127  
Tel 714.278.0992  
Fax 714.278.0051  
www.arcadis-us.com

ENVIRONMENTAL

Date:  
April 23, 2004

Contact:  
James K. Nguyen, P.E.

Phone:  
3026

Email:  
jnguyen@arcadis-us.com

Project Number:  
CA000594.0003.00005

April 23, 2004

water. Sodium bicarbonate was also added in an effort to maintain a neutral pH in the groundwater.

Once the tanker truck arrived onsite, a 3-inch diameter hose was connected from the tanker truck to a truck-mounted manifold system. The manifold system consisted of 12 delivery branches, each with a flow control valve, flow totalizer, and pressure gauge. This system was used to monitor the flow and pressure to each amendment point during the delivery process. A 1-inch diameter rubber hose was used to connect the manifold system to the individual amendment point connections located inside the vaults. Delivery of the solution was considered complete once the design volume was achieved.

During amendment activities on February 23 and 24, carbohydrate solution was observed to be seeping from joints in the concrete floor of unoccupied Building A (Figure 2). Amendment activities were immediately terminated. Recovery and disposal of the carbohydrate solution was completed per the *Notification of Leakage of Molasses Solution* letter dated February 27, 2004 to the RWQCB. Potable water was used to flush the amendment points and lateral lines following carbohydrate delivery. Flushing was conducted on March 1, 2, and 3, 2004. Approximately 25 gallons of potable water per amendment point was used to flush the delivery system free of residual carbohydrate solution to prevent potential fouling. Amendment points not used during the initial amendment event were not flushed. Approximately 76,000 gallons of solution (carbohydrate and potable water) were added to the groundwater during this reporting period (Table 1).

Due to the seepage of the carbohydrate solution, the condition of the amendment system is being evaluated; potable water is being used for this testing. Carbohydrate delivery will resume after the water test is completed, the potential causes of the spillage are assessed, and the delivery method is modified to prevent future spillage. Currently, the water test is scheduled for late April or early May 2004.

## 2.0 Monitoring Activities

During the first quarter of 2004, no groundwater monitoring was conducted. Per the WDR permit, the first monitoring event will be conducted 2 weeks after completing the first amendment event. Since the first amendment event is presently scheduled to be completed in June 2004, the first monitoring event will likely be conducted in late June or early July 2004. In addition to the WDR monitoring, supplemental monitoring was requested during the interim water testing of the system (*Supplemental Groundwater Monitoring* letter dated April 22, 2004). Per the

April 23, 2004

supplemental monitoring, Boeing is proposing to perform a supplemental monitoring event in May 2004.

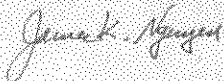
### 3.0 Certification Statement

I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments regarding this discharge monitoring report, please contact Jim Nguyen or David Poley at (714) 278-0992.

Sincerely,

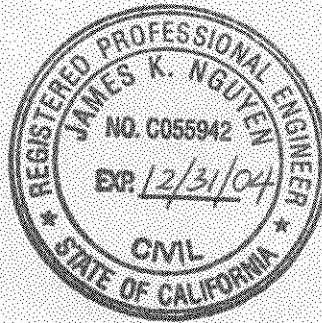
ARCADIS G&M, Inc.



James K. Nguyen, P. E.  
Project Manager



David G. Poley  
Project Scientist



Copies:

Robert Scott, Boeing  
Scott Zachary, Haley & Aldrich  
Project File

Enclosures:

Tables: 1 – Amendment Data  
Figures: 1 – Site Location Map  
2 – Amendment Point and Monitoring Well Locations

ARCADIS

## Tables

**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

Amendment Point ID	Date	Carbohydrate Injection Volume (gallons)	Percent Carbohydrate <sup>(1)</sup>
IRZB0001	2/23/04	157	10%
	3/1/04	22	0%
IRZB0002	2/23/04	584	10%
	3/1/04	25	0%
IRZB0003	2/23/04	1,200	10%
	3/1/04	25	0%
IRZB0004	2/23/04	849	10%
	3/1/04	25	0%
IRZB0005	2/23/04	1,022	10%
	3/1/04	4	0%
IRZB0006	2/23/04	1,200	10%
	3/1/04	25	0%
IRZB0007	2/23/04	1,200	10%
	3/1/04	25	0%
IRZB0008	2/23/04	1,083	10%
	3/1/04	1	0%
IRZB0009	2/23/04	625	10%
	3/1/04	3	0%
IRZB0010	2/23/04	835	10%
	3/2/04	1	0%
IRZB0011	2/23/04	1,201	10%
	3/1/04	25	0%
IRZB0012	2/23/04	133	10%
	3/1/04	25	0%
IRZB0013	2/23/04	274	10%
	3/1/04	25	0%
IRZB0014	2/23/04	250	10%
	3/1/04	25	0%
IRZB0015	2/23/04	129	10%
	3/1/04	25	0%
IRZB0016	2/23/04	122	10%
	3/1/04	25	0%
IRZB0017	2/23/04	341	10%
	3/1/04	25	0%

**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

Amendment Point ID	Date	Carbohydrate Injection Volume (gallons)	Percent Carbohydrate <sup>(1)</sup>
IRZB0018	2/23/04	288	10%
	3/1/04	25	0%
IRZB0019	2/23/04	305	10%
	3/2/04	25	0%
IRZB0020	2/23/04	134	10%
	3/2/04	7	0%
IRZB0021	2/23/04	261	10%
	3/2/04	25	0%
IRZB0022	2/23/04	301	10%
	3/2/04	25	0%
IRZB0024	2/23/04	362	10%
	3/1/04	25	0%
IRZB0025	2/23/04	400	10%
	3/1/04	25	0%
IRZB0027A	2/23/04	481	10%
IRZB0028	2/23/04	253	10%
	3/2/04	25	0%
IRZB0029	2/23/04	401	10%
	3/2/04	25	0%
IRZB0041	2/23/04	1,405	10%
	3/2/04	25	0%
IRZB0043A	2/23/04	209	10%
	3/2/04	25	0%
IRZB0043B	2/23/04	105	10%
	3/2/04	25	0%
IRZB0044	2/23/04	280	10%
	3/2/04	25	0%
IRZB0045A	2/23/04	323	10%
	3/2/04	26	0%
IRZB0045B	2/23/04	36.9	10%
	3/2/04	4	0%
IRZB0046A	2/23/04	491	10%
	3/2/04	25	0%
IRZB0047A	2/23/04	480	10%
	3/2/04	4	0%
IRZB0047B	2/23/04	662	10%
	3/2/04	25	0%

**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

Amendment Point ID	Date	Carbohydrate Injection Volume (gallons)	Percent Carbohydrate <sup>(1)</sup>
IRZB0048	2/23/04	1,221	10%
	3/2/04	25	0%
IRZB0049A	2/23/04	480	10%
	3/2/04	4	0%
IRZB0049B	2/23/04	764	10%
	3/2/04	25	0%
IRZB0050A	2/23/04	170	10%
	3/2/04	7	0%
IRZB0050B	2/23/04	287	10%
	3/2/04	25	0%
IRZB0051A	2/23/04	6	10%
	3/2/04	4	0%
IRZB0051B	2/23/04	883	10%
	3/2/04	25	0%
IRZB0052	2/23/04	539	10%
	3/2/04	25	0%
IRZB0053	2/23/04	1,200	10%
	3/2/04	27	0%
IRZB0054A	2/23/04	7	10%
	3/2/04	5	0%
IRZB0054B	2/23/04	376	10%
	3/2/04	25	0%
IRZB0055B	2/23/04	352	10%
	3/2/04	25	0%
IRZB0056	2/23/04	787	10%
	3/2/04	25	0%
IRZB0057	2/23/04	687	10%
	3/2/04	25	0%
IRZB0058	2/23/04	329	10%
	3/2/04	25	0%
IRZB0059	2/23/04	810	10%
	3/2/04	25	0%
IRZB0060	2/23/04	779	10%
	3/2/04	25	0%
IRZB0061	2/23/04	585	10%
	3/2/04	25	0%

**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

<b>Amendment Point ID</b>	<b>Date</b>	<b>Carbohydrate Injection Volume (gallons)</b>	<b>Percent Carbohydrate<sup>(1)</sup></b>
IRZB0062	2/23/04	1,045	10%
	3/3/04	25	0%
IRZB0063	2/23/04	463	10%
	3/3/04	25	0%
IRZB0064	2/23/04	1,200	10%
	3/3/04	25	0%
IRZB0065	2/23/04	948	10%
	3/3/04	25	0%
IRZB0066	2/23/04	1,110	10%
	3/3/04	25	0%
IRZB0067	2/23/04	328	10%
	3/3/04	25	0%
IRZB0068	2/23/04	617	10%
	3/3/04	25	0%
IRZB0069	2/23/04	738	10%
	3/3/04	25	0%
IRZB0070	2/23/04	532	10%
	3/3/04	25	0%
IRZB0071	2/23/04	563	10%
	3/3/04	25	0%
IRZB0072	2/23/04	1,200	10%
	3/3/04	25	0%
IRZB0073	2/23/04	176	10%
	3/3/04	25	0%
IRZB0074	2/23/04	434	10%
	3/3/04	25	0%
IRZB0075	2/23/04	296	10%
	3/3/04	25	0%
IRZB0076	2/23/04	397	10%
	3/3/04	25	0%
IRZB0079	2/23/04	780	10%
	3/3/04	25	0%
IRZB0080	2/23/04	255	10%
	3/3/04	25	0%
IRZB0082	2/23/04	321	10%
	3/3/04	25	0%



**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

Amendment Point ID	Date	Carbohydrate Injection Volume (gallons)	Percent Carbohydrate <sup>(1)</sup>
IRZB0084	2/23-24/04	589	10%
	3/3/04	25	0%
IRZB0085	2/23-24/04	915	10%
	3/3/04	25	0%
IRZB0086	2/23-24/04	1,200	10%
	3/3/04	26	0%
IRZB0087	2/23-24/04	131	10%
	3/3/04	25	0%
IRZB0088	2/23-24/04	159	10%
	3/3/04	25	0%
IRZB0089	2/23-24/04	345	10%
	3/3/04	25	0%
IRZB0090	2/23-24/04	216	10%
	3/3/04	25	0%
IRZB0091	2/23-24/04	338	10%
	3/3/04	25	0%
IRZB0092	2/23-24/04	796	10%
	3/3/04	25	0%
IRZB0093	2/23-24/04	740	10%
	3/3/04	25	0%
IRZB0094	2/23-24/04	353	10%
	3/3/04	25	0%
IRZB0096	2/23-24/04	483	10%
	3/3/04	25	0%
IRZB0097	2/23-24/04	356	10%
	3/3/04	25	0%
IRZB0098	2/23/04	1,152	10%
	3/3/04	25	0%
IRZB0099	2/23/04	1,200	10%
	3/3/04	25	0%
IRZC0001	2/24/04	1,583	10%
	2/24/04	25	0%
IRZC0002	2/24/04	586	10%
	2/24/04	25	0%
IRZC0003	2/24/04	1,610	10%
	2/24/04	25	0%

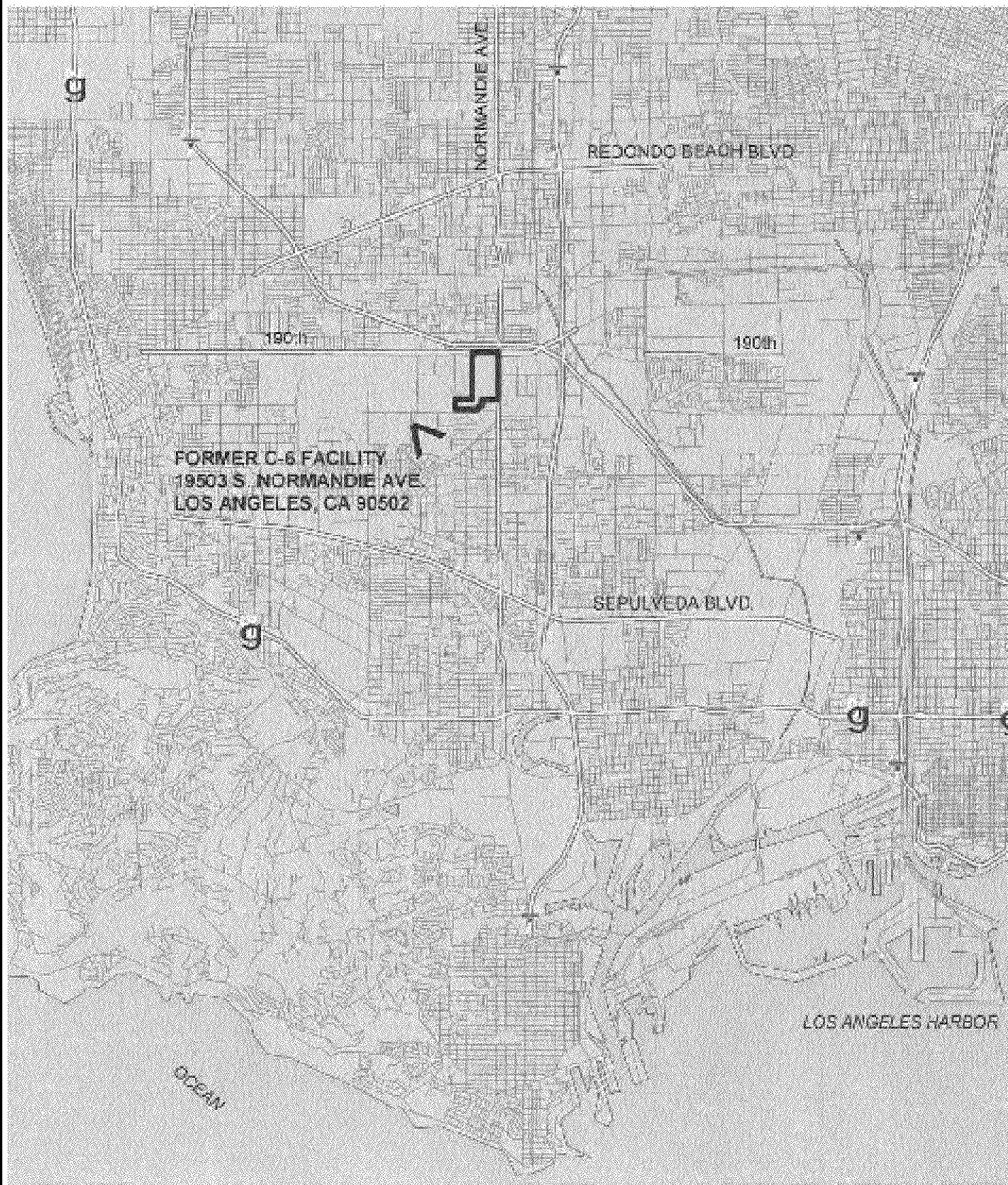
**Table 1**  
**Amendment Point Data**  
**Boeing Realty Corporation**  
**Building 2 Area - Former C6 Facility, Los Angeles, California**

Amendment Point ID	Date	Carbohydrate Injection Volume (gallons)	Percent Carbohydrate <sup>(1)</sup>
IRZC0005	2/24/04	1,300	10%
	2/24/04	25	0%
IRZC0006	2/24/04	1,533	10%
	2/24/04	25	0%
IRZC0007	2/24/04	1,333	10%
	2/24/04	25	0%
IRZC0008	2/24/04	1,482	10%
	2/24/04	25	0%
IRZC0009	2/24/04	1,419	10%
	2/24/04	25	0%
IRZC0010	2/24/04	1,351	10%
	2/24/04	25	0%
IRZC0011	2/24/04	1,350	10%
	2/24/04	25	0%
IRZC0012	2/24/04	1,351	10%
	2/24/04	25	0%
IRZC0013	2/24/04	901	10%
	2/24/04	25	0%
IRZC0014	2/24/04	1,354	10%
	2/24/04	25	0%
IRZC0015	2/24/04	1,204	10%
	2/24/04	25	0%
IRZC0016	2/24/04	1,380	10%
	2/24/04	25	0%
IRZC0017	2/24/04	1,359	10%
	2/24/04	25	0%
IRZC0018	2/24/04	1,253	10%
	2/24/04	25	0%
IRZC0019	2/24/04	1,001	10%
	2/24/04	25	0%
IRZC0020	2/24/04	1,351	10%
	2/24/04	25	0%
<b>Total Volume Injected</b>		<b>76,119</b>	

Note:

<sup>(1)</sup> For injection in February 2004, the carbohydrate solution included 10% molasses and 90% water.

## Figures



Base map downloaded from "Tiger File" data website hosted by ESRI.

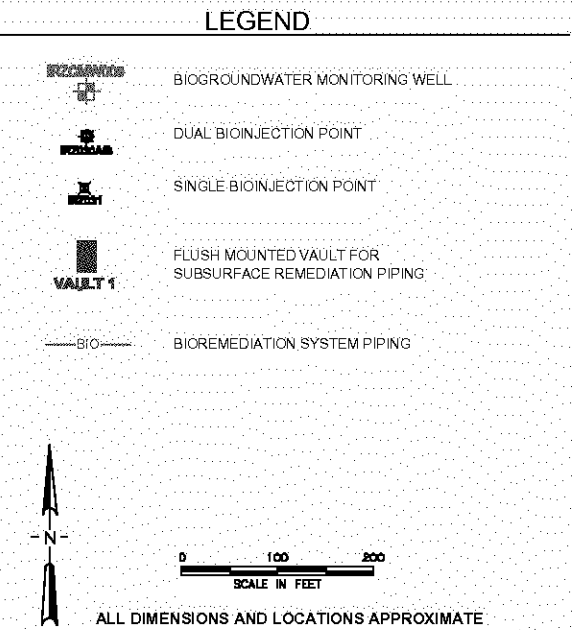
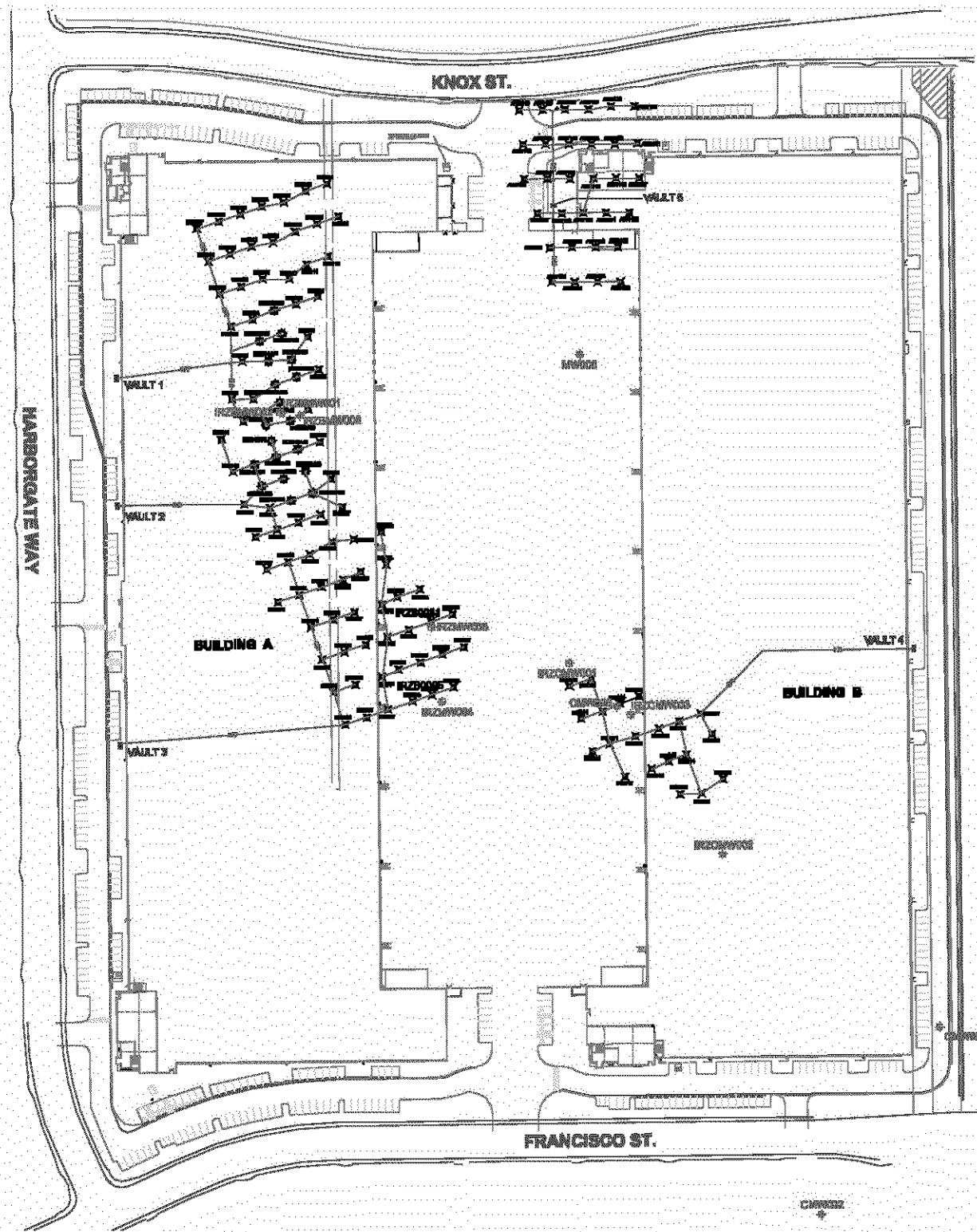


## SITE LOCATION

BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA

FIGURE

1



## AMENDMENT POINT AND MONITORING WELL LOCATIONS

BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA

FIGURE

2